



SOUTHWELL SAMPLERS



4000 Series Effluent Samplers

4000 Series Samplers

The Southwell 4000 Series is the reliable solution for your toughest sampling needs.

Southwell Samplers are the industry's leader in reliable, long-lasting, quality samplers. Purchase a Southwell Sampler and you are buying a product that lasts. Our patented vacuum system technology of collecting samples brings the most accurate measurements of any sampler on the market today. Our industry-leading customer service is ready to help FREE of charge for the lifetime of the product. The 4000 Series Sampler is designed to meet the needs of virtually every standard application, and our staff can custom design samplers to meet any specific needs your corporation may require.

**BVS 4300
Outdoor Sampler**

**CVS 4200
Indoor Sampler**



**PVS 4100
Portable Sampler**

Every sampler is custom-fabricated to be of the highest quality. All our samplers are:

- **Durable**
- **Easy-to-use**
- **Accurate**
- **Dependable**

Inside This Guide:

| | |
|------------------------------------|---|
| Testimonies | 3 |
| Advantages to Vacuum Sampling..... | 4 |
| How Vacuum Sampling Works | 4 |
| Structural Highlights | 5 |
| Features of the 4000 Series | 6 |
| Custom Design Options | 7 |
| Frequently Asked Questions | 7 |





"The simpler they are, the easier they are to maintain... We've had good longevity with them. Parts are available, and they are easy to maintain."

-- Bob Wilson
Maintenance Manager
Pope & Talbot Ltd.
Harmac Pulp Operations

EPA Report comparing Vacuum and Peristaltic Sampling Methods*

"...it is the opinion of the Field Investigations Section that high-vacuum sampling equipment produces more representative samples. On waste sources with appreciable concentrations of large and/or heavy settleable material such as raw municipal wastewater, the section makes every effort to install a high vacuum unit when compatible with the site conditions and data requirements. Since these units yield higher results, they are of advantage to treatment plants in determination of removal efficiencies."

* Excerpt from the Harris Keffer Report, p.80-81, available from NTIS, Document PB259875



Advantages to Vacuum Sampling

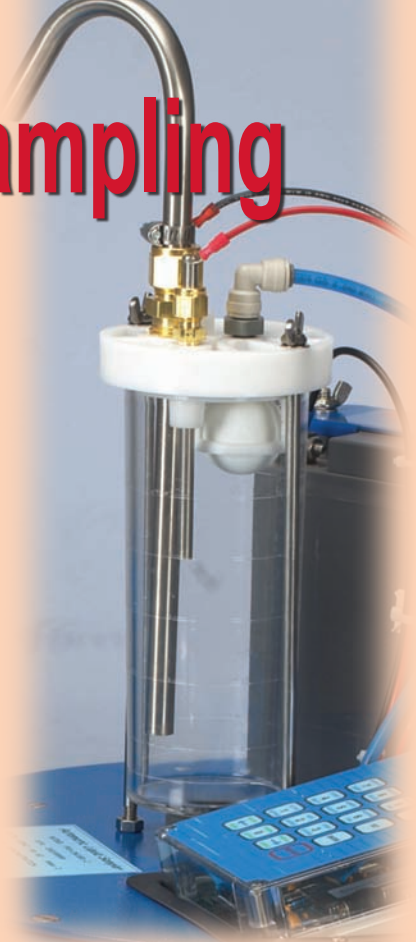
Our patented vacuum sampling system is superior to peristaltic sampling. The vacuum draws at much greater speeds and allows for larger height gain. This is important for accuracy and difficult sampling needs. The fluid travels only through the intake hose to the metering chamber, and then through the discharge hose, eliminating cross-sample contamination from pumps, valves and distribution plates.

5/8" hose

This is a huge factor when considering sample accuracy, in particular for situations where the sample may have larger particles that may not flow easily through a 3/8" tube. The 5/8" hose collects larger specimens and reduces the risk of blocking the intake line. 5/8" tubes are only available in vacuum samplers because of the increased pressure required to handle the larger diameter.

Transport Velocity

Vacuum sampling transport velocities are the highest in the industry, with over 3ft/s for sample lifts of up to 20ft. What this means is a more representative sampling of large particles and suspended solids over high lifts.

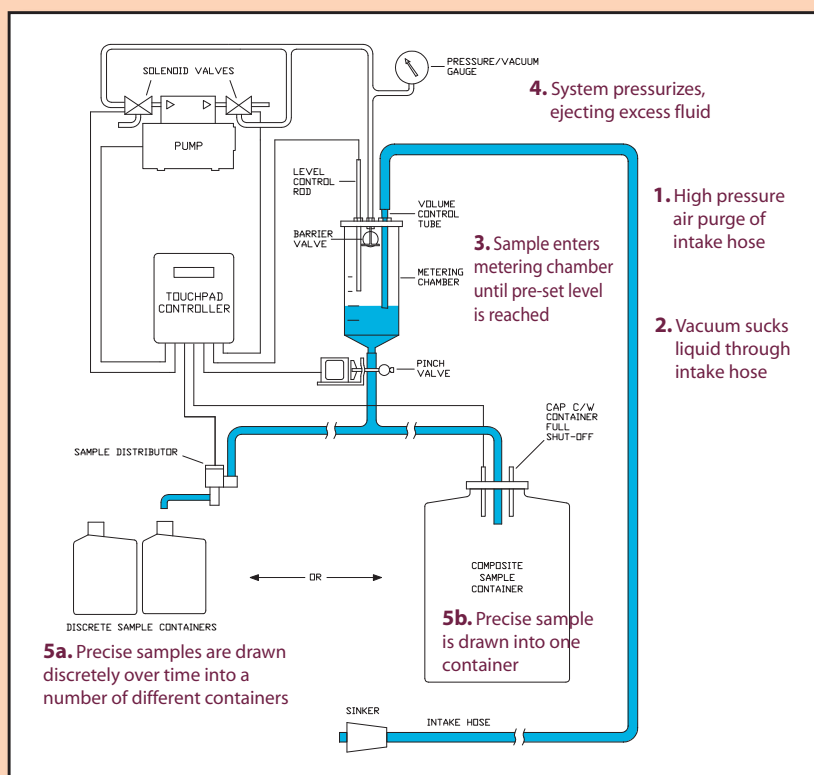


How Vacuum Sampling Works

Sampling Sequence

Sample collection begins with a high pressure air purge of the intake assembly to remove residual liquid and obstructions. The system then converts to a vacuum state, drawing the sample through the intake hose and into the metering chamber until contact is made with the adjustable level sensor. The system then pressurizes, ejecting excess fluid back through the intake line until the predetermined sample volume is achieved.

Samplers are designed either for composite or discrete sampling. Composite sampling takes samples into one container. Discrete sampling takes samples over a pre-determined period of time into up to twenty-four containers.



Structural Highlights

CSA-Approved

All samplers are built in our CSA-approved shop and guaranteed to be of the finest workmanship. They are individually crafted to the highest standards, which not only ensures excellence of quality, but allows us to custom design each sampler according to the specific needs and environment required by the user.



Two-Year Warranty

All samplers have a full two-year warranty for parts and service, and FREE customer support for the lifetime of the product.



Built Tough

The enclosure for outdoor samplers is made of a durable, heavy-gauge steel or stainless steel, and heat-cured polyester-based powder paint for added corrosion resistance. Security features include a door that locks and a bolted-down instrument panel. For cold weather conditions, samplers can be designed with cabinet insulation and a thermostatically-controlled forced-air heater.



Built to Last

Southwell Samplers are designed to take consistently accurate samples for decades of constant use. Even in toxic environments the Southwell Sampler retains its durability.

After twenty years of intense use, this sampler looks and functions almost as good as new!



"We have been using Southwell Samplers for over fifteen years and are very pleased with both the dependability of the product and with their customer service."

— Operations Management
Metro Denver WWTP

A sampler in a wastewater plant for over 20 years.



Features of the 4000 Series

The Control Pad

Designed to be versatile, durable and easy to operate. Not only is the control pad physically able to handle extreme conditions, it guides the operator through programming sequences with easily understood directions. Our customers over and over have told us, "Simple is better." Whereas many samplers require an in-depth user-guide, often seen dangling from the door of the sampler, our customers say that the Southwell control pad is, "Simple enough to figure out by itself!"



Criteria for Sampling

All units are able to take samples based on **user-specific criteria**. They can be set to take samples manually, at regular time intervals, or based on the volume of liquid matter that has passed. Using 4-20mA, multiple pulse, or external contact flow proportional inputs, they are guaranteed to take accurate samples based on the specific needs of the user.



Volumetric Metering Chamber

500cc and 1000cc chambers deliver repeatable sample volumes regardless of difficult conditions. Other samplers have trouble measuring accurately when the content of solids changes, when the sample lift is high, or when the sample source has high velocity. Most samplers attain a mere 10cc's in repeatability. However, even in the toughest environments, the sample repeatability of a Southwell Sampler is within 2cc's! Designed for precision, flexibility in sample volume and durability, chambers can be made to handle even toxic applications.



Custom Design Options

All samplers accept most inputs from industry standard flow meters & data loggers

- Flowmeter
- Data Logging
- Pressure Gauge
- Dupline System: able to control the sampler & data log remotely, up to 4km away.
- Dual Station (with single or dual controller)
- Harness (available for portable samplers)
- 5/8" hose systems:
 - 3/8 in, 5/8 out
 - 5/8 in, 3/8 out
- Time-step override (now available in ALL samplers!)
- Pull-out tray (available in outdoor models)



Frequently Asked Questions



Question: Do all samplers need a liquid purge of the hose between samples in order to clean it?

Answer: Peristaltic samplers require an extra step in order to ensure a clean sample. Vacuum sampling begins with a high pressure pre-purge which cleans the system, and using a teflon hose ensures no particles will stick to it.

Question: Are toxic applications suitable for only one type of sampler?

Answer: Both vacuum and peristaltic samplers can now be designed in order to handle toxic applications.

Question: Do samplers that multi-task and have more analysis options give you a better sample?

Answer: In the world of sampling, peripherals are helpful for basic analysis of things like pH or temperature, but in the end samples must be removed physically in order to test the sample itself for contaminants.





For a complete list of distributors, visit
www.southwellsamplers.com

Your Representative / Distributor is:



Southwell has been making samplers for over forty years under the product name SIRCO. All new samplers and parts are designed to retro-fit past samplers, even those older than some of our employees!



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